

PCT COOPERATION TREATY

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 NOTIFICATION OF THE RECORDING
 OF A CHANGE

(PCT Rule 92bis.1 and
 Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

FORSSÉN & SALOMAA OY
 Yrjönkatu 30
 FIN-00100 Helsinki
 FINLANDE

Date of mailing (day/month/year) 10 April 2001 (10.04.01)	
Applicant's or agent's file reference HL/FI991802	IMPORTANT NOTIFICATION
International application No. PCT/FI00/00690	International filing date (day/month/year) 14 August 2000 (14.08.00)

1. The following indications appeared on record concerning:

☒ the applicant
 ☐ the inventor
 ☐ the agent
 ☐ the common representative

Name and Address

VALMET CORPORATION
 Fabianinkatu 9 A
 FIN-00130 Helsinki
 Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person
 ☒ the name
 ☐ the address
 ☐ the nationality
 ☐ the residence

Name and Address

METSO PAPER, INC.
 Fabianinkatu 9 A
 FIN-00130 Helsinki
 Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office
 ☒ the designated Offices concerned
☒ the International Searching Authority
 ☐ the elected Offices concerned
☐ the International Preliminary Examining Authority
 ☐ other:

The International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

F. Baechler

Telephone No.: (41-22) 338.83.38

F. ENT COOPERATION TREA

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

FORSSÉN & SALOMAA OY
Eerikinkatu 2
FIN-00100 Helsinki
FINLANDE

Date of mailing (day/month/year) 29 January 2002 (29.01.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference HL/FI991802	
International application No. PCT/FI00/00690	
International filing date (day/month/year) 14 August 2000 (14.08.00)	

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☒ the agent ☐ the common representative

Name and Address FORSSÉN & SALOMAA OY Yrjönkatu 30 FIN-00100 Helsinki Finland	State of Nationality	State of Residence
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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address FORSSÉN & SALOMAA OY Eerikinkatu 2 FIN-00100 Helsinki Finland	State of Nationality	State of Residence
	Telephone No. +358 9 615 3500	
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	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Peter WIMMER
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 09 May 2001 (09.05.01)	
International application No. PCT/FI00/00690	Applicant's or agent's file reference HL/FI991802
International filing date (day/month/year) 14 August 2000 (14.08.00)	Priority date (day/month/year) 24 August 1999 (24.08.99)
Applicant KOIVUKUNNAS, Pekka et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
21 March 2001 (21.03.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Charlotte ENGER Telephone No.: (41-22) 338.83.38
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(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 March 2001 (01.03.2001)

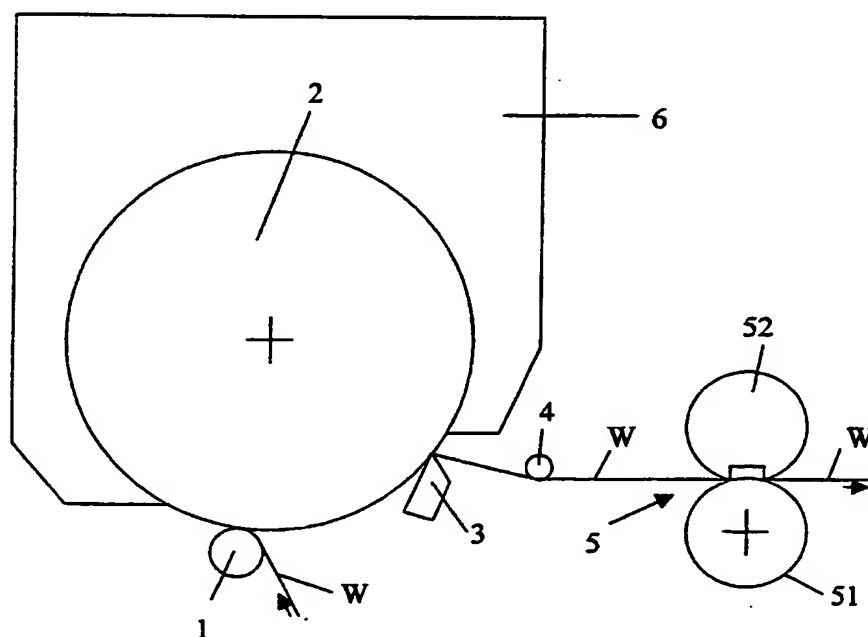
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(10) International Publication Number
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- (51) International Patent Classification⁷: D21G 1/00, (74) Agent: FORSSÉN & SALOMAA OY; Yrjönkatu 30, FIN-00100 Helsinki (FI).
D21F 5/02
- (21) International Application Number: PCT/FI00/00690 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
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- (71) Applicant (*for all designated States except US*): METSO PAPER, INC. [FI/FI]; Fabianinkatu 9 A, FIN-00130 Helsinki (FI).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): KOIVUKUNNAS, Pekka [FI/FI]; Kauhavankuja 5, FIN-04430 Järvenpää (FI). LARES, Matti [FI/FI]; Palkkatilankatu 5 B 20, FIN-00240 Helsinki (FI).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
— with amended claims and statement

[Continued on next page]

(54) Title: METHOD AND ARRANGEMENT FOR SURFACE TREATMENT OF A PAPER AND/OR BOARD WEB



(57) Abstract: The present invention relates to a method and an arrangement for surface treatment of a paper and/or board web (W). In accordance with the invention, the arrangement is formed of a yankee cylinder (2) and a calendering unit (5) placed one after the other in the machine direction, by means of which the web (W) is first glazed and dried and after that immediately calendered.

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(88) Date of publication of the international search report:
23 August 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Date of publication of the amended claims and statement:
4 October 2001

AMENDED CLAIMS

[received by the International Bureau on 22 March 2001 (22.03.01);
original claims 1-8 replaced by amended claims 1-6 (1 page)]

1. A method for surface treatment of a paper and/or board web (W), **characterized** in that the web (W) is glazed and dried first by means of a yankee cylinder (2), after which
5 the web is immediately calendered by means of a shoe or extended-nip calendering unit (5).
2. A method according to claim 1, **characterized** in that, when it is intended to achieve a given paper or board quality, the difference between the running speed used and the
10 maximum running speed dependent on the evaporation capacity of the yankee cylinder (2) is compensated for by means of calendering, i.e. calendering after the yankee cylinder enables the running speed of the yankee cylinder to be increased without the quality, that is, gloss and smoothness of paper or board suffering.
- 15 3. A method according to claim 1, **characterized** in that the surface of the web (W) glazed by means of the yankee cylinder (2) is glazed in the calendering unit (5).
4. An arrangement for surface treatment of paper and/or board, **characterized** in that the arrangement is formed of a combination in which there are disposed in the machine
20 direction first a yankee cylinder (2) and then a calendering unit (5), which is formed by a shoe or extended-nip calendering unit (5).
5. An arrangement according to claim 4, **characterized** in that, when it is intended to achieve a given paper or board quality, the difference between the running speed used
25 and the maximum running speed dependent on the evaporation capacity of the yankee cylinder (2) is compensated for by means of the calendering unit (5), i.e. the calendering unit placed after the yankee cylinder enables the running speed to be increased without the quality, that is, gloss and smoothness of paper or board suffering.
- 30 6. An arrangement according to claim 4, **characterized** in that the calendering unit (5) glazes the surface of the web (W) glazed by means of the yankee cylinder (2).

STATEMENT UNDER ARTICLE 19 (1)

- i. the claim 1 replaces the claims 1 and 2 as filed, whereby the characterising parts of the claims 1 and 2 as filed are combined,
- ii. the claim 2 is unchanged and replaces the claim 3 as filed,
- iii. the claim 3 is unchanged and replaces the claim 4 as filed,
- iv. the claim 4 replaces the claims 5 and 6 as filed, whereby the characterising parts of the claims 5 and 6 as filed are combined,
- v. the claim 5 is unchanged and replaces the claim 7 as filed,
- vi. the claim 6 is unchanged and replaces the claim 8 as filed.

As the closest prior art is considered the publication JP 0531793 which discloses as the solution to arrange a soft-calander after a yankee-sylinder.

This publication does not teach anything about the new and inventive idea according to the present invention, that a shoe-calander or calander with an extended nip is arranged after a yankee-sylinder. Hence, according to the invention the shoe-calander or the calander with the extended nip, which both calander types differ essentially from the soft-calander, is arranged after the yankee-cylinder.

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AND REGISTRATION**
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SEARCH REPORT

PATENT APPLICATION NO. FI 19991802	CLASSIFICATION D 21 G 1/00
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EXAMINED MATERIAL
Collection of patent publications (FI, SE, NO, DK, DE, CH, EP, WO, GB, US), examined classes D 21 G
Data retrievals and other material EPODOC, WPI, PAJ

DOCUMENTS CITED		
Category^{*)}	Document identification details	Relevant to claims
X	JP 5331793 (D 21 G 1/00)	1, 5
<p>^{*)} X Document of relevance with respect to patentability when taken alone Y Document of relevance with respect to patentability when this and one or more documents falling into the same category are taken into consideration A Document representing the general state of the art, however not a bar to patentability</p>		
Date 25.4.2000	Examiner Petteri Pulli	

PATENTTIHAKEMUS NRO 19991802	LUOKITUS D 21 G 1/00
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TUTKITTU AINEISTO
Patenttijulkaisukokoelma (FI, SE, NO, DK, DE, CH, EP, WO, GB, US), tutkitut luokat D 21 G
Tiedonhaut ja muu aineisto EPODOC, WPI, PAJ

VIITEJULKAISUT		
Kategoria^{*)}	Julkaisun tunnistetiedot	Koskee vaatimuksia
X	JP 5331793 (D 21 G 1/00)	1, 5
<p>*) X Patentoitavuuden kannalta merkittävä julkaisu yksinään tarkasteltuna Y Patentoitavuuden kannalta merkittävä julkaisu, kun otetaan huomioon tämä ja yksi tai useampi samaan kategoriaan kuuluva julkaisu A Yleistä tekniikan tasoa edustava julkaisu, ei kuitenkaan patentoitavuuden este</p>		
Päiväys 25.4.2000	Tutkija Petteri Pulli	